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FOOD NEWS

FOR CONSUMERS

Volume 6 Number 2 Summer 1989

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**Power's
Out!**

**Eating Safely on
that Trip Abroad**

**The New Problem
with E. coli**

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Vol. 6, No. 2

Food News for Consumers is published by USDA's Food Safety and Inspection Service, the agency charged with ensuring the safety, wholesomeness and proper labeling of the nation's meat and poultry supply. The magazine reports how FSIS acts to protect public safety, reporting research findings and regulatory efforts important in understanding how the agency works and how consumers can protect themselves against foodborne illness.

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Les Crawford **On Food Safety**



Dr. Lester Crawford, administrator of USDA's Food Safety and Inspection Service, is a veterinarian with a doctorate in pharmacology.

Dr. Crawford also serves as the U.S. coordinator of the Codex Alimentarius Commission, a United Nations group that sets standards for food safety around the world.

Before coming to USDA, he was director of FDA's Center for Veterinary Medicine.

Q. Dr. Crawford, there's been so much concern recently over pesticides and other residues in food. What is FSIS doing to keep harmful chemicals out of meat and poultry?

A. FSIS is charged with protecting the nation by ensuring a safe meat and poultry supply. Chemical contamination — whether from animal drugs, pesticides or other sources — is one of the important hazards our inspection program guards against.

Some chemicals are considered so dangerous we don't allow even the slightest trace in food. With others, trace amounts are allowed up to a defined limit — usually just a few parts per million or billion. These limits have a built-in safety factor because they're based on what a person could safely consume in a lifetime — a much greater intake than would normally occur in a few infrequent exposures.

For some commonly used animal drugs, our inspectors use quick on-the-spot tests to see if a carcass contains illegal residues. But for other drugs and chemicals, including pesticides, quick tests are not yet available, so inspectors must send samples to a lab. If a problem is suspected, the carcass is then held until the test results are reported.

Nearly 327,000 meat and poultry samples were checked for residues in fiscal year 1988, with more than 1.7 million analyses performed. Of all those tests, only about one-fifth of 1 percent revealed a residue problem. That's a good record, but we will continue to work with other government agencies, farmers and others in food production to reduce the violation rate even more.

Our efforts to protect the public health do not stop at U.S. borders. FSIS also works to prevent possible problems with imported meat and poultry. We certify that foreign plants have safe production standards equal to U.S. plants before they can export to us, and we re-inspect shipments as they arrive.

Our efforts are wide-ranging and continuous in an attempt to protect the American consumer!

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Hotline Calling

Let's Barbeque!

Summertime. Everyone's ready to cook out.

But food poisoning bacteria love balmy weather too. In fact, foodborne illness rises sharply over the summer.

So don't be caught unawares. Here are some safe food handling guidelines based on the kind of questions we hear on USDA's Meat and Poultry Hotline.

And here's the Hotline's own recipe for *Quick Country Ribs* with safe food handling tips written right in.

Q. My family is quite large and we often barbeque outside in the summer. Foods like chicken and pork ribs take a while to grill. Can you partially boil the meat ahead to shorten the time on the grill?

A. Cooking ahead — parboiling or briefly popping something in the microwave — is only safe if you *immediately* finish the cooking process on the grill.

USDA's Meat and Poultry Hotline,
1-800-535-4555,
currently receives some 4,800
consumer calls each month.

Otherwise, cook the food completely to ensure that any bacteria in the raw food are killed. Refrigerate the cooked food in small, shallow containers. Reheated on the grill later, it will taste freshly barbequed.

Remember, too, not to let food sit out over 1 hour on a hot day.

Q. I've recently discovered marinades for use in grilling meat and poultry. Are there any safety tips on handling these great sauces?

A. Keep these four points in mind when using sauces and marinades:

1) Marinate in a glass dish in the refrigerator, not on the counter.

2) If you want to make a dip for cooked food from your marinade, reserve a separate portion for dipping. Don't re-use any of the marinade used on the raw meat. It could contain bacteria.

3) Be careful with forks and brushes used on raw meat. WASH these utensils before using them again with cooked food so that you don't unwittingly spread bacteria through them.

4) Take a clean plate and utensils out to the grill for serving cooked food.

Q. My mother-in-law often grills shishkabob for family outings. I've heard raw meat shouldn't touch other foods, yet she puts all the ingredients on one plate for assembling. Should I be concerned?

A. You're right that raw meat juices can contaminate other food. But since the kabobs will be cooked right away, the risk is small.

The only concern here would be if hungry guests munch some of her cut-up raw vegetables that have gotten into the raw meat juice that could contain bacteria.

Therefore, generally it's better to keep raw meats separate from other foods.

Q. What's this I hear about grilled and flame-broiled foods causing cancer? Is anything safe to eat anymore?

A. It does seem that we're being cautioned about a lot of foods these days. Usually, though, "moderation" is the watchword. That's the case with

grilled foods.

Some studies have linked the smoke caused by fat dripping on hot coals and the charring that occurs from flame or gas grilling with increased cancer risk. However, eating moderate amounts of grilled foods shouldn't pose a problem for barbeque lovers.

Here's how to further lower any risk:

- Raise the level of the grill so food is farther from the heat.
- Remove any visible fat on the meat. This reduces "flame-ups."
- Arrange the charcoal so fat doesn't drip on it.
- Cook meat until it's done *without* charring it. Remove any charred portion.
- Clean the grill after every use.
- If you eat a lot of grilled food (more than several times a week), precook meat or poultry so it's not on the grill very long.

Q. After a softball game, the team usually enjoys a picnic. We're tired of peanut butter sandwiches and would like hamburgers and hot-dogs. How can we keep these foods safe while we play?

A. It's critically important to keep perishable foods cold *especially* in hot weather. Bacteria on raw or cooked foods can grow rapidly at warm temperatures to levels that can cause food poisoning.

So use an insulated cooler when transporting perishable foods. Start out with *cold* food when possible and pack a cold source — like ice or the frozen "blue ice" jells — in the cooler.

You can also freeze the fruit juice that comes in small paper cartons. Carried in the cooler,

they'll serve as blocks of ice to chill the food.

Put the cooler in the shade and keep the lid closed.

You might also try freezing the hamburger patties and hot-dogs. They'll thaw somewhat in transit, but it's okay to grill partially frozen meat. Just be sure the center gets thoroughly cooked. For ground beef, juices should run clear and the meat should not be pink.

Q. Usually I just grill a few steaks every now and then, but I'd like to try smoking a turkey or a roast in the covered grill. What's the difference between smoking and grilling? Can you give me some guidance?

A. Generally, grilling is the rapid cooking of rather small pieces of food. Smoking is cooking larger pieces of meat or poultry in a covered grill or smoker, using a *moist* cooking method.

Methods vary with the types of equipment, so follow the directions for your particular kettle grill or smoker.

Keep these safety considerations in mind:

- The temperature inside the smoker should stay in the 250°-300° F range for safety's sake. Use an oven thermometer inside the smoker to check.
- A pan of water should sit inside the smoker. The moist heat is vital for safety when cooking at this low temperature.
- To ensure sustained heat, use a high-quality charcoal. Add new coals every 1 to 2 hours.
- Cooking times will vary greatly depending on outside weather conditions. For safety and doneness, red meat should reach an internal temperature of 160° F; poultry, 180° F. Use a meat thermometer to check.

— Susan Templin

Quick Country Ribs

Save time with these wonderful sweet 'n sour ribs pre-cooked just before grilling.

4 servings

Ribs: 3 lbs. country ribs (pork)
¼ cup water

Sauce: ½ cup diced onion
1 T oil
1 cup ketchup
1 cup water
¼ cup dark brown sugar
¼ cup cider vinegar
¼ cup Worcestershire
2 tsp. soy sauce
1 tsp. celery seed
1 tsp. chili powder
⅛ tsp. pepper
⅛ tsp. hot sauce

Cook sauce: Saute onions in oil in saucepan. Add other ingredients. Bring to a boil. Cover and simmer 15 min.

Start grill: As sauce simmers, start coals.

Pre-bake ribs: Oven — Cover with water and bake covered in oven preheated to 350° F for 30 min.

Microwave — Cover dish with vented plastic wrap. Cook on high 10-15 min., turning ribs and rotating dish midway in time period.

Grill ribs: Take ribs straight to grill. Grill 30-40 min., turning and for final 15 min. basting with ¾ cup sauce. Ribs should be brown and done clear through. Discard used basting sauce.

To serve: Take ribs from grill with clean utensils. Place on clean serving plate. Heat remaining sauce for serving.

Traveling Afar —

What you can SAFELY eat and drink

by Laura Fox and
Marianne Gravely

Chances are good you're as likely to return from a trip to a foreign country with a case of traveler's diarrhea as you are with souvenir postcards and t-shirts. This is particularly true if you're going to a developing country.

Quite simply, traveler's diarrhea is usually a mild, short-term illness caused by eating or drinking contaminated food or water. In addition to diarrhea, symptoms include abdominal cramps, nausea, bloating, fever and overall discomfort.

According to a report by the Food and Agriculture Organization and the World Health Organization, "Traveler's diarrhea is now a widespread phenomenon, affecting 20 to 50 percent of all travelers." The condition affects one-third of travelers from industrialized nations to developing countries.

Nearly 30 million Americans will be at risk for contracting

traveler's diarrhea this year as they venture to developing and high-risk countries.

Traveler's diarrhea is slightly more common in young adults than in older people. The reasons for this are unclear, but may include a lack of acquired immunity, more adventurous travel styles and different eating habits. Men and women are equally likely to get sick.

Dr. Steve Ostroff, a medical epidemiologist at the Centers for Disease Control (CDC) in Atlanta, said that when people travel they are likely to be less cautious about what they eat than they are at home. "When you're traveling, you are experiencing lots of changes — climate, time zone, lifestyle, eating habits — and these may factor into susceptibility to traveler's diarrhea."

Dr. Ostroff said at this time there are no immunizations available which will prevent the illness. Since lack of sanitation

and hygiene are the two most important factors causing infection, it is important to be cautious about the foods and beverages you consume.

Unlike the United States, Canada, and many western European countries, many developing countries do not have a clean water supply. This is an important point when you realize that water is used in food and beverage preparation and in hand washing.

Water, even that used for brushing teeth, should be boiled before drinking to ensure that it is free of bacteria and parasites. Purification tablets, chlorine, and iodine do not kill parasites and therefore are not recommended for use.

With cooked food, the same rules of food safety apply when you travel as when you're at home. Dr. Ostroff said all foods should be thoroughly cooked, especially meat, poultry, fish, eggs and vegetables. New re-



To Eat or Not to Eat?

Foods to Avoid

Tap water, ice

Unpasteurized milk and dairy products

Raw vegetables

Raw peeled or cut-up fruits

Raw or undercooked meat, poultry, eggs or seafood

Custards, mayonnaise, dressings, cream fillings

Foods Usually Safe to Eat

Boiled water

Bottled water, carbonated beverages, beer, wine

Hot coffee or tea

Refrigerated hard-cooked eggs you peel yourself

Hot food served hot, cold food served cold

search indicates that food heated before serving to levels hot to the touch may not be bacteria-free. Travelers may wish to request food be reheated to a steaming or piping hot level to ensure that bacteria are destroyed.

Likewise, foods that are to be eaten cold should be served cold. Bacteria diminish in hot or cold temperatures but can multiply rapidly at room temperature. The rule of thumb is don't eat foods that have been sitting at room temperature for longer than two hours.

In addition to tap water and raw foods, other risky items include ice, unpasteurized milk and dairy products and fruit that doesn't lend itself to peeling.

And not only should travelers be concerned about *what* they eat, they should also be careful about *where* they eat.

Private homes and restaurants recommended for tourists are

probably the least risky in terms of adherence to good sanitation and hygiene practices. Dr. Ostroff said you should definitely avoid food from street vendors.

Is there anything travelers should do before they leave home? Dr. Ostroff said it's important to understand how the health care system works in the country you're visiting and its limitations.

"If you are going to a remote area of a developing country where there's no access to adequate health care, you should talk to your doctor about taking along appropriate medication in the event you become ill," he said.

But he warned against taking antibiotics as a preventive measure because this can actually encourage the growth of antibiotic-resistant bacteria in the body. In other words, many people develop diarrhea symptoms just from taking antibiotics.

If you do come down with mild symptoms of traveler's diarrhea (one or two unformed stools within 8 hours, cramps, nausea, malaise), Dr. Ostroff recommended drinking plenty of liquids.

He said the CDC does not generally recommend taking medications which limit diarrhea because the diarrhea is actually ridding your body of harmful bacteria.

For more severe symptoms such as fever, bloody stools or persistent diarrhea with serious fluid loss, Dr. Ostroff said you should seek medical attention. But he cautioned travelers to be sure only disposable needles and syringes are used if they need an injection.

Should all this information deter you from a foreign adventure? "No," said Dr. Ostroff. But caution should certainly be the watchword when it comes to eating and drinking.

Help, Power Outage!

by Herb Gantz and
Diane VanLonkhuyzen

When summer storms cause power outages jeopardizing food, here's what to do.

KEEP THE FREEZER CLOSED. Keep what cold air you have inside. Don't open the door any more than necessary.

You'll be relieved to know that a full, freestanding freezer will stay at freezing temperatures about 2 days; a half-full freezer about 1 day.

If your freezer is not full, group packages together so they form an "igloo" protecting each other.

And, if you think power will be out for several days, try to find some dry ice. Follow the handling instructions carefully. You don't want to touch the dry ice or breathe the fumes in an enclosed area.

Twenty-five pounds of dry ice should hold a 10-cubic-foot full freezer 3 to 4 days.

Although dry ice can be used in the refrigerator, block ice is better. You can put it in the refrigerator's freezer unit and place your refrigerated perishables there — meat, poultry, dairy items.

Group meat and poultry to one side or on a tray so that if they begin thawing, their juices won't get on other food.

IF FOOD HAS STARTED TO THAW, WHAT CAN SAFELY BE KEPT? You will have to evaluate each item separately. See the charts for different frozen and refrigerated foods. Generally, be very careful with meat and poultry products or any food con-



taining milk, cream, sour cream or soft cheese. When in doubt, throw them out.

WHAT ABOUT HOW THE FOOD WILL TASTE? Raw meats and poultry from the freezer can usually be refrozen without too much quality loss.

Prepared foods, vegetables and fruits can normally be re-

frozen, but there may be some quality loss. Fruits and fruit juices can be refrozen with minimal quality loss.

Refrigerated items should be safe as long as power is out no more than a few hours. After that, you may have to discard them unless block ice was added to the refrigerator or they were transferred to the freezer.

These are rule-of-thumb guides. For the actual handling of specific foods, follow the instructions in the charts.

Be sure to discard any fully-cooked items in either the freezer or the refrigerator that have come into contact with raw meat juices.

Remember, you can't rely on appearance or odor. Never taste food, either, to determine its safety! Some foods may look and smell fine, but if they've been at room temperature too long, food poisoning bacteria may have multiplied enough to cause illness.

For more information, call the Meat and Poultry Hotline toll-free at 1-800-535-4555. In the metropolitan Washington, D.C. area call 447-3333.

Be Prepared

If you live in an area where loss of electricity from summer storms is a problem, you can plan ahead to be prepared for the worst.

- Stock up on shelf-stable foods — canned goods, juices and the new "no-freeze" dinners in paper cartons that last 6-8 months.

- Plan ahead for ice. Buy some freeze-pak inserts and keep them frozen. Buy a cooler. Freeze water in plastic containers.

- Know in advance where you can buy dry and block ice.

- Develop emergency freezer-sharing plans with friends in another part of town or in a nearby area.

REFRIGERATOR FOOD—When To Save and When To Throw It Out

	Food still cold, held at 40° F or above under 2 hours	Held above 40° F for over 2 hours
Dairy		
Milk, cream, sour cream, buttermilk, evaporated milk, yogurt	Safe	Discard
Butter, margarine	Safe	Safe
Baby Formula, opened	Safe	Discard
Eggs		
Eggs, fresh		
Hard-cooked in shell	Safe	Discard
Egg Dishes		
Custards and puddings	Safe	Discard
Cheese		
Hard cheeses, processed cheeses	Safe	Safe
Soft cheeses, cottage cheese	Safe	Discard
Fruits		
Fruit juices, opened	Safe	Safe
Canned fruits, opened	Safe	Safe
Fresh fruits, coconut, raisins, dried fruits, candied fruits, dates	Safe	Safe
Vegetables		
Vegetables, cooked		
Vegetable juice, opened	Safe	Discard after 6 hours
Baked potatoes	Safe	Discard
Fresh mushrooms, herbs and spices	Safe	Safe
Garlic, chopped in oil or butter	Safe	Discard
Casseroles, soups, stews	Safe	Discard
Meat, Poultry, Seafood		
Fresh or leftover meat, poultry, fish or seafood	Safe	Discard
<i>Meat, Poultry, Seafood (con't)</i>		
	Food still cold, held at 40° F or above under 2 hours	Held above 40° F for over 2 hours
Thawing meat or poultry	Safe	Discard if warmer than refrigerator temperatures
Meat, tuna, shrimp, chicken, egg salad	Safe	Discard
Gravy, Stuffing	Safe	Discard
Lunchmeats, hotdogs, bacon, sausage, dried beef	Safe	Discard
Pizza - meat topped	Safe	Discard
Canned meats (NOT labeled "Keep Refrigerated") but refrigerated after opening	Safe	Discard
Canned hams labeled "Keep Refrigerated"	Safe	Discard
Pies, Pastry		
Pastries, cream filled	Safe	Discard
Pies - custard, cheese filled or chiffons	Safe	Discard
Pies, fruit	Safe	Safe
Bread, Cakes, Cookies, Pasta		
Bread, rolls, cakes, muffins, quick breads	Safe	Safe
Refrigerator biscuits, rolls, cookie dough	Safe	Discard
Cooked pasta, spaghetti	Safe	Discard
Pasta salads with mayonnaise or vinegar base	Safe	Discard
Sauces, Spreads, Jams		
Mayonnaise, tartar sauce, horseradish	Safe	Discard if above 50° F for over 8 hours
Peanut butter	Safe	Safe
Opened salad dressing, jelly, relish, taco and barbeque sauce, mustard, catsup, olives	Safe	Safe

FROZEN FOOD—When To Save and When To Throw It Out

	Still contains ice crystals and feels as cold as if refrigerated	Thawed. Held above 40° F for over 2 Hours
Meat, Poultry, Seafood		
Beef, veal, lamb, pork and ground meats	Refreeze	Discard
Poultry and ground poultry	Refreeze	Discard
Variety meats (liver, kidney, heart, chitterlings)	Refreeze	Discard
Casseroles, stews, soups, convenience foods, pizza	Refreeze	Discard
Fish, shellfish, breaded seafood products	Refreeze. However there will be some texture and flavor loss.	Discard
Dairy		
Milk	Refreeze. May lose some texture.	Discard
Eggs (out of shell) and egg products	Refreeze	Discard
Ice Cream, frozen yogurt	Discard	Discard
Cheese (soft and semi-soft), cream cheese, Ricotta	Refreeze. May lose some texture.	Discard
Hard cheeses (cheddar, Swiss, Parmesan)	Refreeze	Refreeze
Casseroles containing milk, cream, eggs, soft cheeses	Refreeze	Discard
Cheesecake	Refreeze	Discard

Fruits		
Juices	Refreeze	Refreeze. Discard if mold, yeasty smell or sliminess develops.
Home or commercially packaged	Refreeze. Will change in texture and flavor.	Refreeze. Discard if mold, yeasty smell or sliminess develops.

	Still contains ice crystals and feels as cold as if refrigerated	Thawed. Held above 40° F for over 2 Hours
Vegetables		
Juices	Refreeze	Discard after held above 40° F for 6 hours.
Home or commercially packaged or blanched	Refreeze. May suffer texture and flavor loss.	Discard after held above 40° F for 6 hours.
Breads, Pastries		
Breads, rolls, muffins, cakes (without custard fillings)	Refreeze	Refreeze
Cakes, pies, pastries with custard or cheese filling	Refreeze	Discard
Pie crusts	Refreeze	Refreeze
Commercial and homemade bread dough	Refreeze. Some quality loss may occur.	Refreeze. Considerable quality loss.
Other		
Casseroles - pasta, rice based	Refreeze	Discard
Flour, cornmeal, nuts	Refreeze	Refreeze

What's the New Problem with

E. coli?

by Mary Ann Pamley

Perhaps you heard about the Minnesota students who were hospitalized last year after eating undercooked hamburgers at school that contained a new type of *E. coli* bacteria.

There have also been serious food-related *E. coli* outbreaks in Wisconsin, Oregon, Washington, Idaho, Utah, Nebraska and North Carolina.

In Canada and in the U.S., a number of nursing home residents died from *E. coli* contaminated food.

Can this be the same *E. coli* bacteria we've always considered a harmless dweller in the intestinal tract?

Yes and no.

Yes, there are types of *E. coli* that live peacefully in the human intestine. They keep the growth of more harmful organisms in check and even produce some B vitamins for us.

But there are other types of *E. coli* that cause traveler's diarrhea and more serious diarrhea in young children, particularly in the Third World.

And there's this "new" villain *E. coli* O157:H7 that's been causing all the trouble here and in Canada.

"Hemorrhagic *E. coli* is a Bad Actor."

First identified by scientists in the early 1980s when illness with bloody stools was reported in people who'd eaten undercooked hamburgers from some fast food outlets, this new bacterial strain is emerging as even more troublesome than some experts first thought.

"Hemorrhagic *E. coli* is a bad actor," said Dr. Catherine Adams, head of USDA's Hemorrhagic *E. coli* Task Force. "It's capable of causing more serious disease than most foodborne bacteria and has caused fatalities in the elderly."

Serious Side-Effects. In the very young, the elderly and the infirm, the complications of infection with hemorrhagic *E. coli* can be quite serious.

In children under 10 and the elderly, doctors sometimes see a condition called hemolytic uremic syndrome (HUS), in which damaged blood vessels in the kidney appear to cut into healthy red blood cells. "We call it the cheese-slicer effect," said Dr. Robert Tauxe, a research physician at the Centers for Disease Control in Atlanta.

"Still, while HUS has been fatal in a few cases, what usually happens is that an affected child

goes into kidney failure, is on machine dialysis for up to a month and then recovers," Tauxe said.

A more threatening side-effect, sometimes seen in adults, is called TTP for thrombotic thrombocytopenic purpura. Dr. Tauxe said TTP causes nervous system problems such as strokes and seizures due to blood clots in the brain. This is one of the reasons for the nursing home deaths.

How could you contract a hemorrhagic *E. Coli* infection?

Since thorough cooking kills this bacteria, most cases have involved people eating undercooked ground beef or drinking unpasteurized milk. Bacteria are destroyed by high heat in normal pasteurization.

But when these *E. coli* bacteria are consumed in food that hasn't been properly cooked or pasteurized, getting the hemorrhagic illness is easy — roughly 30 to 60 percent of those exposed get sick.

What's the disease like?

Symptoms like severe abdominal cramps, diarrhea which is often bloody, nausea, vomiting and a low fever may develop 3-4 days after eating contaminated food.

The disease can last up to 10

days and, because of its severity, often requires hospitalization.

"What often happens," said Dr. Tauxe, "is that clinicians see this diarrhea with literally *cups* of blood in it and rush patients to the hospital."

Detection and Reporting.

Because this bacteria passes through the body rather quickly, health professionals treating patients are urged to take a stool sample early on and freeze it for later lab analysis.

"Bloody diarrhea is almost never caused by a virus," said Dr. Tauxe, "so you don't have to worry about freezing killing any viral cells you'd want to identify. And freezing will keep other organisms from overgrowing and masking the *E. coli*."

Dr. Tauxe added that lab professionals should know there's a simple procedure now for identifying *E. coli* 0157: H7.

"Just streak part of your sample on a SMAC (Sorbitol MacConkey) plate," he said. That's a special growth medium. "This bacteria gives a negative reaction to sorbitol, which is a good indication it's present, since about 97 percent of the other *E. coli* strains test positive to sorbitol."

To summarize. Hemorrhagic *E. coli* is a food poisoning agent we're seeing now with increasing frequency.

Carried in the gut and feces of animals and humans, it's moving through Canada and across the U.S.

The bacteria can travel through animal-to-animal, meat animal-to-human and human-to-human contacts.

Therefore people can get sick from contaminated raw food of animal origin or, it seems likely, when infected food handlers contaminate food eaten raw or undercooked.

While the bad news is that hemorrhagic *E. coli* causes food poisoning with symptoms ranging from acute discomfort and diarrhea to kidney failure and death, the good news is that you can protect yourself.

The bacteria is killed by thor-

ough cooking. So don't eat rare-in-the-middle meats when you're out, and cook and handle food carefully at home.

This advice is critically important for the young, the elderly or anyone with a weakened immune system.

According to Dr. Tauxe, while researchers often work with prisoners or healthy college students who volunteer to contract certain illnesses, this new bacteria is considered so dangerous no one's doing any human volunteer studies with it.

As Tauxe said, "Would you want to risk *your* kidneys?"

Protect Yourself at Home

1. NEVER DRINK raw milk. Use pasteurized milk.
2. After SHOPPING, quickly freeze or refrigerate perishable foods.
3. USE refrigerated ground meat and patties in 3-4 days; frozen meat and patties in 3-4 months.
4. WASH your hands, utensils and work areas with hot, soapy water after contact with raw meat and meat patties.
5. COOK meat and patties until very hot. The center should be gray or brown. Juices should run clear with no trace of pink. ALL meat, poultry and fish should be well cooked.
6. SERVE cooked food with clean plates and utensils.
7. CHECK package directions. You might need to pre-heat the oven or grill. Cook for required time period. Cook covered if directions call for that.
8. MICROWAVE carefully. If your oven is a lower wattage than what is shown in the instructions, you'll need to cook food longer or at a higher setting. Rotate food for even cooking. Let food stand outside the oven after cooking if so directed. The food will finish cooking as it stands.
9. NEVER THAW food on the counter or let it sit out of the refrigerator over 2 hours!

News Wires

USDA Computer Modeling Will Help Processors Prevent Food Poisoning

Food processors throughout the nation could soon be using a computer program to determine how rapidly any one of six food poisoning bacteria could grow in their products.

Researchers at USDA's Agricultural Research Center in Philadelphia have developed a computer program that can forecast bacterial growth.

Because the computer program is user friendly, non-research personnel can use it to type in data about the temperature at which they will process their product, the product's pH (acid or base measure), salt and nitrite levels and whether the processing is done without oxygen. These factors affect the growth of bacteria.

The computer will then produce a graph that calculates possible levels for *Listeria monocytogenes* and *Aeromonas hydrophilia* (both of which can grow at refrigerated temperatures); *Salmonella typhimurium* and *Staphylococcus aureus* (the two major causes of food poisoning in the United States); *Clostridium botulinum* (which causes botulism); and *Shigella flexneri* (a pathogen that still poses many unanswered questions for scientists).

More foodborne bacteria may be added to the forecasting computer model in the future.

For more information, contact: Dr. Robert L. Buchanan,

Eastern Regional Research Center, Philadelphia, PA, 1-215-233-6620.

— Liz Lapping

Tightening the Rules on Meat Patties

Pre-cooked and partially cooked meat patties are enjoying brisk sales today to consumers too busy to prepare meals from scratch.

"But there can be problems with these items," said Dr. Lester M. Crawford, head of USDA's Food Safety and Inspection Service, "when consumers *think* the meat is fully cooked and it's not."

Recently, for example, a strain of the bacteria *E. coli* caused an outbreak of food poisoning in some Minnesota students who ate underdone beef patties at school.

There have been other cases of food poisoning caused by undercooked or incorrectly processed patties, too, and USDA is considering action.

The Department is seeking to strengthen requirements for the manufacture of such patties and will also ask that cooking instructions be included on these meat packages.

For instance, USDA is proposing that labels on partially cooked ground meat patties indicate that these items are only partially cooked and that, for safety, they should be cooked until juices run clear. This would appear next to the product name.

Meanwhile, consumers are advised to: 1) Keep all meat patties refrigerated or frozen before use; 2) Use refrigerated patties in 3 to 4 days; 3) Cook patties until well done in the center.

For more information on how to safely handle pre-cooked and partially cooked meat patties, call USDA's Meat and Poultry Hotline: 1-800-535-4555, 10-4 weekdays, EST. If you live in the Washington, D.C. area, call (202) 447-3333.

— Liz Lapping

Summer Egg Care — No, the chickens haven't been "fixed" yet

Callers to USDA's Meat and Poultry Hotline have been asking if the salmonella-in-eggs problem has been "fixed." The answer, right now, is no.

An intense research effort is underway, however. Researchers in USDA, academia and the food industry are working to unravel the details of how *Salmonella enteritidis* spreads through flocks.

Specifically, they need to understand how to keep the salmonella infection out of flocks and how to prevent hens from passing the food poisoning bacteria to the interior of an egg before the shell is formed.

But this isn't an easy problem, and experts say a workable solution is probably several years away.

Meanwhile, consumers are advised to exercise extra caution in handling fresh eggs. You need to be especially careful over the summer months because high heat encourages bacterial growth.

This is critical if you have high-risk people in your family — infants, the elderly, pregnant women and anyone with a weakened immune system.

For everyone, it is advisable to:

1. Buy grade AA or A eggs with clean, uncracked shells.
2. Keep fresh eggs refrigerated for use within 3 weeks. Discard cracked eggs.
3. Never leave eggs unrefrigerated over 2 hours.
4. Wash hands and work surfaces with hot, soapy water after contact with raw eggs.
5. Cook eggs thoroughly until both yolk and white are firm, not runny, to kill any bacteria that might be present.
6. Avoid recipes that call for raw eggs. Use cooked recipes for homemade ice cream. The custard base for your ice cream should reach at least 160° F or coat a spoon dipped into the mixture.
7. Serve thoroughly cooked eggs immediately or refrigerate them. Divide large quantities into small, shallow containers for quick cooling.
8. Use commercial mayonnaise, made with pasteurized eggs, as a safer choice than homemade mayonnaise.

— Susan Templin

Quick Tests Keep Drugs, Chemicals Out of Food

The Food Safety and Inspection Service (FSIS) of USDA has a number of tests to detect harmful drug and chemical residues. The tests, many of which can be used on site by our inspectors, can also determine what kind of meat or poultry is present in a product or show when a product has been improperly cooked or canned.



They are cheaper and faster than laboratory tests and have greatly improved the ability of FSIS to ensure a safe, accurately labeled meat and poultry supply.

The tests include:

• **The STOP or Swab Test on Premises.** Designed to detect antibiotics, the test is conducted by taking a swab sample from the kidney of a butchered animal and placing the swab on an agar plate that contains bacteria. If the area around the swab is clear after 24 hours (see illus.), antibiotics are present and have killed the bacteria. Further laboratory confirmation is required before the carcass is condemned for containing unhealthful antibiotic residues.

• **The CAST or Calf Antibiotic and Sulfa Test.** This test is used only in bob veal calves — those under 150 pounds and less than 3 weeks old. Sulfa drugs are used more frequently in bob veal calves than in older cattle.

CAST is conducted the same as STOP. Unlike the other rapid residue tests, however, CAST does not require laboratory confirmation. Any violation found under CAST results in immediate condemnation of the meat.

• **The SOS or Sulfa on Site** is a swine urine test. It detects violative levels of sulfamethazine,

a drug used to treat animal disease.

SOS is in use in 100 of the largest swine slaughtering facilities.

The SOS test is a chemical separation test that isolates any sulfa compounds present in the urine. If sulfa is present, it shows up when the sample is sprayed with a fluorescent compound and passed under ultraviolet light.

• **The CUT or Cattle Urine Test.** Recently developed and being tested on a limited basis, CUT detects chloramphenicol in cattle. Chloramphenicol, an antibiotic, has been banned for use in food animals, because humans consuming the drug's residues in meat can develop a serious anemia.

The test is conducted by placing a urine sample on a treated card. If chloramphenicol is present, the resulting reaction causes the card to stay white instead of changing color.

Ultimately, CUT will be used by the FSIS nationwide.

• **The SIFT or Species Identification Field Tests** are used to detect the presence of beef, poultry, pork and lamb.

A species test is used in cases where, for example, a label claims "all beef" hotdogs. To be sure no pork or poultry has been added, a species test can be used at the plant.

• **The CAT or Catalase Enzyme Test** can detect if roast beef or other cooked meat products reached the required safe temperature of 145° F during processing. It's also used to test for spoilage in canned goods.

For more information, contact the FSIS Information Office at 1-202-447-9113.

— Linda Swacina



Sweet Potatoes — The New Fries?

Why not? The sweet potato is rich in vitamin A and maintains good flavor, texture and appearance even after a year in frozen storage, said William Walter, Jr., a chemist with USDA's Agricultural Research Service in Raleigh, North Carolina.

Plus, this represents a whole new commercial use of *Ipomoea batatas*, the sweet potato.

How do they taste? "Imagine sweet potatoes that have a texture somewhat like french fries," Walter said. "They're especially good with vinegar, salt, sugar and other seasonings."

New Center for Food Safety Research

The Food and Drug Administration, the Illinois Institute of Technology and its nonprofit research arm, the IIT Research Institute, are working together to set up the National Center for Food Safety and Technology at the Moffett Technical Center in Bedford Park, Ill., a Chicago suburb.

At this center, the first to unite the resources of academia and government, FDA and the food industry will conduct cooperative research on aseptic processing, new packaging materials, computer-run processing equipment, biotechnology and other topics of current interest.

You Can Order It . . .

— "*Eating for Life*," a new brochure from the National Cancer Institute and the National Heart, Lung and Blood Institute, explains how lowering fat consumption and increasing fiber, fresh fruits and vegetables can lengthen your life.

For your free copy, call or write NHLBI, 9000 Rockville Pike, Bldg. 31, Room 4A21, Bethesda, Md. 20892. Phone: 1-202-496-4236.

— USDA's new full-color *Dietary Guidelines poster*. An elegant shot showing foods from each of the major food groups, sets off a list of the 7 Dietary Guidelines. Size: 16 x 22 inches. Shipped in a tube.

Send \$3.75 to the Superintendent of Documents, U.S. Govt. Printing Office, Wash., D.C. 20402. Specify item no. 001-000-04531-8. Phone: 1-202-783-3238.

— Four new *bulletins*, complete with color photographs, charts, and recipes, help you put the USDA/DHHS Dietary Guidelines into action in everyday meals. They are:

"Preparing Foods and Planning Menus," 32 pp., \$2.50 (172-V);

"Making Bag Lunches, Snacks and Desserts," 32 pp., \$2.50 (173-V);

"Shopping for Food and Making Meals in Minutes," 36 pp., \$3.00 (174-V); and

"Eating Better When Eating Out," 20 pp., \$1.50 (175-V).

Write the Consumer Information Center, Pueblo, Col. 81009. Specify title and order number. Enclose a check made out to the Superintendent of Documents.

— Two new bibliographies in USDA's National Agricultural Library's *Pathfinder* series list current papers, books and audiovisuals in "Food Safety" and "Ready-Prepared Foods." Call or write the Food and Nutrition Information Center, National Agricultural Library, Room 304, Beltsville, Md. 20705 for your free copies. Phone: 1-301-344-3719.



**Grill Our Experts
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and Poultry Hotline
for food safety facts

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10:00 am-4:00 pm
Eastern Time

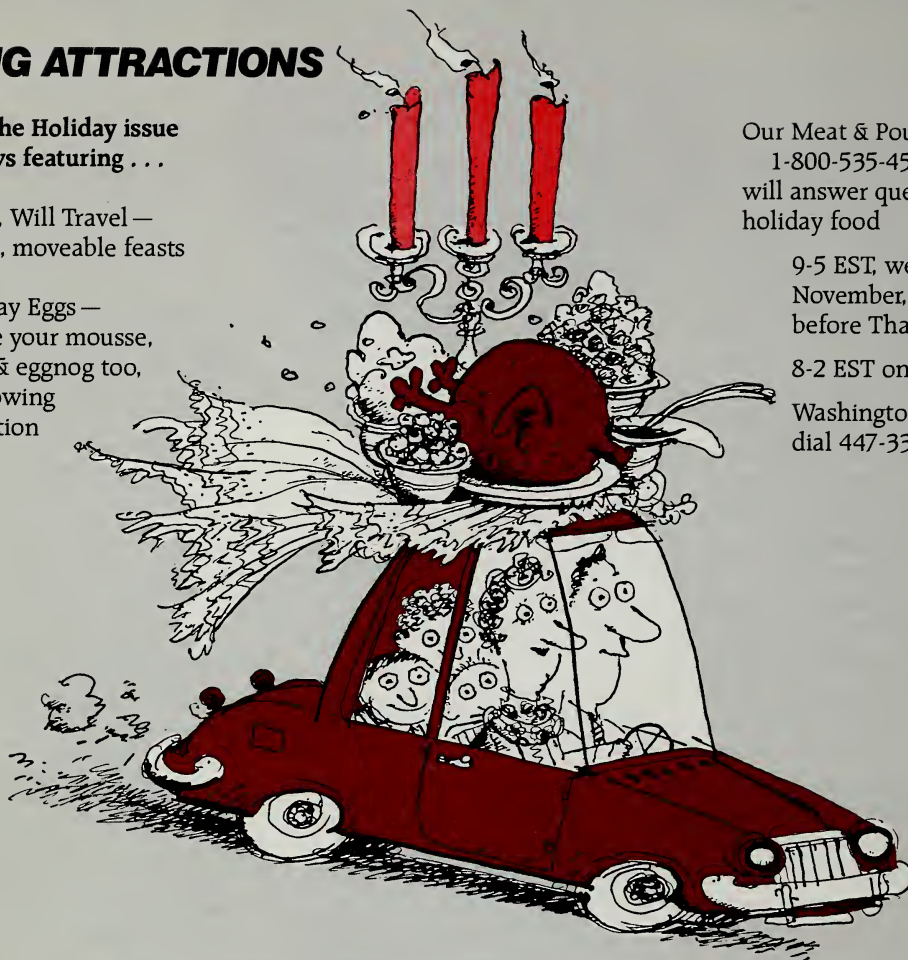
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